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(72) Inventor: Neri, Filippo
14053 Canelli (AT) (IT)

(74) Representative:
Lotti, Giorgio et al
c/o Ing. Barzanò & Zanardo Milano S.p.A.
Corso Vittorio Emanuele II, 61
10128 Torino (IT)

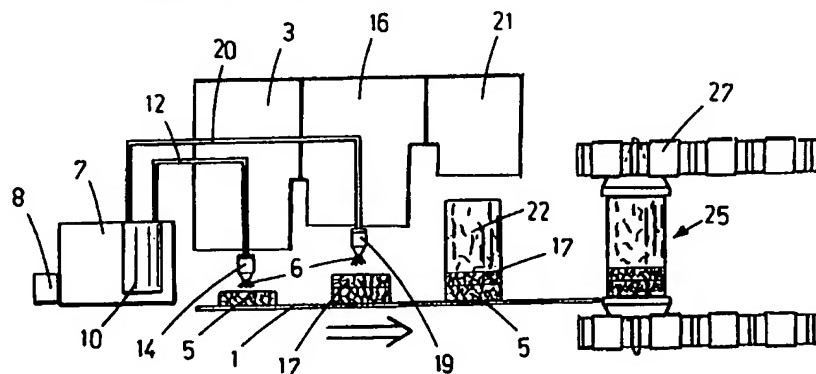
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(71) Applicant: NERI F. & C. S.n.c.
14053 Canelli (AT) (IT)

(54) A method for manufacturing corks and a device for carrying out the method

(57) Method and device for manufacturing corks (25), specifically corks with the greater part of the body made of a cork mix (22) and at least one end section made of natural cork (5), in which a solid disk of natural cork (5), with a pre-established diameter, is placed on the manufacturing device; hot glue (6) is released onto one surface of the disk (5); a cylindrical body (22) made of cork mix is placed on the above-mentioned surface of

the disk, the diameter of the cylindrical body corresponds to the diameter of the disk (5) and it is of a length suitable for the formation of the cork; the disk is axially compressed against the cylindrical body, and/or vice versa, for a length of time sufficient to ensure that the glue is set.



EP 0 927 613 A2

Description

[0001] The present invention regards a method for manufacturing corks, specifically corks with the greater part of the body made of a cork mix and at least one end section made of natural cork, and a device for carrying out the method.

[0002] The manufacturing process for this kind of composite cork, with the lesser part made of natural cork and the greater part made of a cork mix, is usually carried out by gluing one or more natural cork disks, obtained previously by well-known methods, onto a main cylindrical body, made of a cork mix, with a diameter of substantially the same size as the disk onto which it is glued.

[0003] In the technical field, there are several well-known methods for manufacturing these kinds of corks, one of which has the following stages: a) a solid natural cork disk with a pre-defined diameter is placed on the conveyor belt or carousel conveyor of a manufacturing device; b) the upper surface of the disk is sprinkled with glue; c) a cylindrical body of suitable length and diameter, made of a cork mix, is placed on the above-mentioned surface of the disk; d) the disk is compressed in an axial direction against the cylindrical body, and/or vice versa; e) at the same time as the previous step is being carried out, the cork thus obtained is heated to a temperature which ensures that the glue is set.

[0004] A second kind of manufacturing process carries out the above-mentioned compression stage d) inside special casings and the corks undergo the heating process inside these casings only after stage d) has been carried out.

[0005] The aim of the present invention is to shorten and simplify the method described above for manufacturing composite corks and, thus, to make it less expensive.

[0006] A second aim of the present invention is to simplify the device necessary for manufacturing composite corks.

[0007] In accordance with the first aim mentioned above it is an object of the present invention to provide a method for manufacturing corks, specifically corks with the greater part of the body made of a cork mix and at least one end section made of natural cork, which consists of the following stages: a) a natural cork disk with a pre-defined diameter is placed on the manufacturing device; b) glue is released onto one surface of the disk; c) a cylindrical body, with a diameter corresponding to the diameter of the natural cork disk and a length suitable for the formation of the cork, is placed onto the above-mentioned surface of the disk; d) the disk is compressed in an axial direction against the cylindrical body, and/or vice versa, for a length of time sufficient to ensure that the glue is set; the special feature of the above-mentioned method for manufacturing corks is that the glue released during stage b) is hot.

[0008] In accordance with the second aim mentioned

above it is an object of the present invention to provide a device for manufacturing composite corks which comprises: a conveyor belt or line or other device suitable for transporting all or part of the assembled cork; at least one mechanism for placing at least one natural cork disk onto the conveyor belt; at least one batching plant for releasing glue onto one surface of the above-mentioned disk; a tank for storing the glue, fitted with a suitable device for moving the glue to the batching plant; a mechanism for placing a cylindrical body, with a diameter corresponding to the diameter of the natural cork disk and a length suitable for the formation of the cork, onto the upper surface of the above-mentioned disk; a press equipped with a conveyor belt or carousel conveyor or other device for picking up the assembled corks and compressing them axially for a sufficient length of time to ensure that the glue is set; a special feature of the piece of device described above is that the tank is fitted with a heating unit for heating the glue.

[0009] Further characteristics and advantages of the present invention will be apparent from the following detailed description of a non-limiting embodiment considered in combination of the accompanying drawing, in which is illustrated, in the form of a diagram, a device for manufacturing composite corks according to the method relating to the present invention.

[0010] With reference to the diagram: 1 indicates a conveyor belt or a carousel conveyor (illustrated) on a mechanised production line for the manufacture of composite corks. The line is equipped with a first mechanism 3 for placing solid disks made of natural cork 5 continuously onto the conveyor belt 1. A tank 7 for storing glue 6 of the kind that may be used with products which come into contact with foods is placed on the production line and is equipped with a heating unit 8 for heating the glue and a pump 10 for pumping the glue. A pipeline 12 links the pump 10 to a first batching plant 14, which releases a pre-defined quantity of heated glue 15 onto the upper surface of the disk 5. All the production line functions may be automated and controlled via an electronic control unit which is not illustrated in the diagram. The temperature of the glue 6 may be set according to the kind of glue which is to be used.

[0011] A second mechanism 16, next to the first, is used for placing a second natural cork disk 17 onto the surface of the first disk 5 onto which glue has been released, the above-mentioned second mechanism may or may not be activated, according to the type of cork which is to be manufactured.

[0012] A second batching plant 19 may be used to release, via the pump 10 and a pipeline 20, a second batch of glue, which is also heated by the heating unit 8, onto the upper surface of the second disk 17. This stage of the method may be omitted in the case that a cork is to be produced with a single natural cork disk rather than two. A mechanism 21 then places a cylindrical body 22 onto the second disk, the diameter of the above-mentioned cylindrical body corresponds to the

diameter of the disks and it is of sufficient length to complete the length of the finished cork, inclusive of the thickness of the above-mentioned disks 5 and 17. The cylindrical body 22 is made of a cork mix.

[0013] The cork 25, assembled as described above, is then taken from the carousel conveyor 27 by a press, so that the body 22 and the disks 5 and 17 are pressed in an axial direction and are held pressed together for a length of time sufficient to ensure that the glue 6 is set, with the result that the parts are firmly assembled together.

[0014] The device described above allows the manufacture of composite corks, via gluing, without heating the assembled corks in ovens, which are necessary to ensure that the glue is set in the case that pre-heated glue is not used. The device described in the invention in question releases pre-heated glue onto the surfaces of the disks via a tank equipped with a heating unit 8, so that it is not necessary to use an oven to ensure that the glue is set. The result is a device which manufactures corks in less time and at a lower cost.

[0015] It should also be noted that the manufacturing method and device described above produce corks on which the glue is evenly set, specifically because the glue is released when hot, resulting in an even film which is highly protective against germs in the cork and against damp in the atmosphere, either of which could penetrate into the interior of the bottle due to the porous nature of the cork and result in the wine being contaminated. This highly protective film does not occur when cold glue is released onto the cork, as an even film is not formed on the surface and the porous cork absorbs the glue so that it separates into many isolated sections.

[0016] In addition, the formation of an even film of glue improves the gluing process between the various parts which make up the finished cork.

Claims

1. Method for manufacturing corks, specifically corks with the greater part of the body made of a cork mix and at least one end section made of natural cork, which consists of the following stages: a) a natural cork disk with a pre-defined diameter is placed on the manufacturing machine; b) glue (15) is released onto one surface of the disk; c) a cylindrical body, with a diameter corresponding to the diameter of the natural cork disk and a length suitable for the formation of the cork, is placed onto the above-mentioned surface of the disk; d) the disk is compressed in an axial direction against the cylindrical body, and/or vice versa, for a length of time sufficient to ensure that the glue is set; the special feature of the above-mentioned method for manufacturing corks is that the glue released during stage b) is hot.

2. Method as claimed in Claim 1, characterized by the

fact that after stage b there is a stage b' which consists of placing a second natural cork disk onto the surface of the first disk (5) which is already covered with glue and that after stage b' there is a stage b'' which consists of releasing glue (15) onto the upper surface of the second disk (17).

3. Device for manufacturing composite corks using the method claimed in Claim 1, which comprises: a conveyor belt or line or other device suitable for transporting all or part of the assembled cork; at least one mechanism (3.16) for placing at least one natural cork disk onto the conveyor belt (1); at least one batching plant (19) for releasing glue onto the above-mentioned disk (3.16); a tank for storing the glue, fitted with a suitable device for moving the glue to the batching plant; a mechanism (21) for placing a cylindrical body, with a diameter corresponding to the diameter of the natural cork disk and a length suitable for the formation of the cork, onto the upper surface of the above-mentioned disk (3.16); a press equipped with a conveyor belt or carousel conveyor or other device for picking up the assembled corks and compressing them axially for a sufficient length of time to ensure that the glue is set; a special feature of the device described above is that the tank (7) is fitted with a heating unit for heating the glue (15).

4. Device as claimed in Claim 3, characterized by the fact that the device for heating the glue (15) is made up of a heating unit (8).

